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|---|---|---|
| **Code** | : | |
| **Sub-Module** | : | **MECHATRONICS SYSTEM TROUBLESHOOTING** |
| **Prerequisite** | : | |
| **Duration** | : | **3 Days/ 24 Hours** |
| **PSMB Scheme** | : | **SBL** |
| **Training Approach** | : | **Theory and Practical** |

**Summary of objectives** :

**At the end of the module, student/ participant should be able to:**

- Identify main elements in a mechatronics system
- Read, analyse and utilize the technical documents such as data sheets, timing diagrams, operation manuals, schematics, etc. for a mechatronic system
- Trace and describe the flow of energy in a given mechatronic system or subsystem.
- Carry out measurements on electrical components in a mechatronic system.
- Correctly localize, identify and document causes of malfunctions in mechatronics system, based upon the technical documentation.

**Overview:**

**1. Mechatronics system overview**

1.1 Review of electrical components in mechatronics system
1.2 Review of mechanical & drive components in mechatronics system
1.3 Review of pneumatic and hydraulic components in mechatronics system
1.4 Review of controller used in mechatronics system

**2. Mechatronics system documentation**

2.1 Electrical wiring diagram
2.2 Pneumatic and hydraulic wiring diagram
2.3 Sequence function chart
2.4 Example of component's datasheet

**3. Energy flow in mechatronics system**

3.1 Electrical quantities

3.2 Mechanical and other quantities

3.3 Creating of energy flow diagram for mechatronics system

**4. Basic measurement**

4.1 Voltage measurement

4.2 Current measurement

4.3 Pneumatics and hydraulics pressure measurement

**5. Systematic system troubleshooting**

4.1 Identifying causes of malfunctions in the system

4.2 Tracing of signal flow measurements

4.3 System troubleshooting strategies

**6. Fault finding exercise**

**Equipment / Machine/ Software**

**Machines/ Equipment Brand Name** **:** FESTO'S MODULAR PRODUCTION SYSTEM

**Certification**

Certificate of attendance will be issued to those who fulfil 80% of attendance.